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FOSTER WHEELER LLC

8 UNITED STATES DISTRICT COURT  
9 NORTHERN DISTRICT OF CALIFORNIA  
10

11 ALBERT WRIGHT JR. and MARVA JOE  
12 GREEN WRIGHT,

13 Plaintiff(s),  
14 vs.

15 A.W. CHESTERTON COMPANY, ET  
AL.,

16 Defendants.  
17

USDC No.: C07-5403-EDL

DECLARATION OF LAWRENCE  
STILWELL BETTS IN OPPOSITION TO  
MOTION TO REMAND TO STATE COURT

18 I, Lawrence Stilwell Betts, MD, PhD, CIH, FACOEM, declare that:

19 1. My name is Lawrence Stilwell Betts. I am a "retired" United States Navy  
20 Captain with an active professional practice based in Poquoson, Virginia. As reflected in  
21 my Curriculum Vitae (Exhibit 1), I am the President of a medical corporation that is  
22 based upon applying the principles and methods of preventive medicine. I routinely  
23 integrate and apply occupational and environmental medicine, toxicology, and industrial  
24 hygiene to consult or work with difficult or complex medical cases where treatment, or  
25 exposure, or possible consequences of exposure, is in question. However, the emphasis  
26 of my entire career has been prevention of illness and the promotion of health through  
27 the integration of my scientific and medical knowledge and experience. After my  
28

1 retirement from the Navy in 2001, I was presented the VADM Richard A. Nelson Award  
 2 for my career contributions to Navy and Marine Corps readiness through leadership in  
 3 prevention of disease and promotion of health. My professional practice still includes  
 4 work with the Navy and other armed force services, as well as non-military federal  
 5 agencies, industry, professional organizations, and academically- and privately-  
 6 practicing professionals. In addition to recurrent consultations, I teach, mentor, perform  
 7 research, develop prevention and treatment protocols, and write medical articles and text  
 8 chapters. I am a Professor at the Eastern Virginia Medical School in the Department of  
 9 Family and Community Medicine and a Clinical Professor of Physiological Sciences.  
 10 With approval from my superiors in the Navy, I have been academically affiliated with  
 11 Eastern Virginia Medical School for the past twenty-seven years. I serve on several  
 12 national committees addressing broad, as well as specific, issues in occupational and  
 13 environmental health. I am board certified in both Occupational Medicine by the  
 14 American Board of Preventive Medicine, and in the comprehensive practice of Industrial  
 15 Hygiene by the American Board of Industrial Hygiene. In the practice and application of  
 16 toxicology, it is well known that ALL chemicals are toxic as a consequence of dose  
 17 (Paraselsus [1493-1541]: "*Sola dosis facit venenum*" – "Dose alone makes the poison") and  
 18 that "hazard" is a consequence of how a chemical is used. The anticipation, recognition,  
 19 evaluation, and control of hazardous conditions are the fundamentals of industrial  
 20 hygiene, as well as my practice of preventive medicine and public health.

21       2. During my Navy career spanning three decades, I had experiences ranging  
 22 from the provision of "field" services underway and on shore as a junior industrial  
 23 hygiene officer, to the oversight of the medical and scientific aspects of a robust  
 24 occupational health program as a senior Navy officer. I have spent time at sea on a  
 25 number of United States Navy and United States Naval ships. I served as a physician on  
 26 the USS KITTY HAWK (CV-63) during its Service Life Extension Program (SLEP) in the  
 27 Philadelphia Naval Shipyard from 1987 to 1989. My experiences and training enabled  
 28 me to become qualified as a Surface Warfare Medical Department Officer. Based upon

1 my scientific and medical training, and experience as a Navy officer for three decades, I  
2 am generally familiar with the industrial products that were used by the Navy and the  
3 Navy work environments, both ashore and afloat. I am also familiar with the history and  
4 practice of the Navy occupational health program from its early days before World War  
5 II until the present time.

6 3. I understand that the plaintiffs are claiming that Mr. Albert Wright, Jr.,  
7 worked on a number of Navy ships as a machinist for the Navy from 1965 to 1995 and  
8 that he developed an asbestos-related condition as a result. I further understand that  
9 plaintiffs allege that Foster Wheeler is one of a number of companies responsible for  
10 asbestos-containing products to which plaintiffs allege that Mr. Wright was exposed.

11 4. During the time periods that these ships were built, it is my understanding  
12 that Foster Wheeler manufactured and delivered boiler and auxiliary equipment to the  
13 Navy pursuant to Navy contracts, some of which may or may not have ended up on  
14 ships that Mr. Wright worked aboard. In any event, however, any such boiler and  
15 auxiliary equipment manufactured and supplied by Foster Wheeler in fulfillment of  
16 government contracts followed the specifications set forth by the United States  
17 Government detailing required components, materials, and performance characteristics.  
18 The U.S. Navy would have accepted delivery of such boiler, auxiliary equipment, and  
19 related manuals only if they met these specifications. The Navy would not have  
20 accepted, commissioned, or permitted a Navy vessel to steam with boiler and auxiliary  
21 equipment that did not comply with precise specifications set forth by the Navy, which  
22 includes providing any labeling of the equipment.

23 5. To the extent that Foster Wheeler ever delivered boiler and auxiliary  
24 equipment to the government for use on Navy vessels in the 1940s – 1950s and thereafter,  
25 the U.S. Government already recognized that the prolonged inhalation of sufficient  
26 concentration of asbestos fibers could result in pulmonary disease. Indeed, this  
27 knowledge was held by the U.S. Government prior to the period of construction, and Mr.  
28 Wright's work, on any such ships. Based upon that scientific and medical knowledge,

1 the U.S. Government generally, and the Navy specifically, by the early to mid 1940s had  
2 already developed an active and robust program to control exposure to asbestos  
3 concentrations recognized to be harmful, and medically monitored personnel exposed to  
4 those levels. Additionally, the Navy established engineering control procedures  
5 (including isolation, exhaust ventilation, wet methods, and process changes to minimize  
6 dust release) and training, and required the use of respiratory protection for personnel  
7 considered to be at risk of excessive exposure during dusty operations.

8 6. The information possessed by the U.S. Government during this period (and  
9 the comprehensive occupational health program based upon this information), and  
10 thereafter and until such time as Mr. Wright's work on Navy vessels ended, with respect  
11 to the specification and use of asbestos, and the health hazards associated with its use  
12 aboard Navy vessels, far exceeded the information that possibly could have been  
13 provided by a boiler manufacturer such as Foster Wheeler. Based upon the state-of-the-  
14 art knowledge at that period, the U.S. Government was fully aware of the health hazards  
15 of asbestos and had a program to control exposure of personnel and monitor their health.  
16 This existed before World War II and through the period that Mr. Wright was working  
17 on any Navy vessels – and it continues until this day.

18 7. In preparing this declaration, I have relied upon my personal and  
19 professional knowledge and experience as an industrial hygienist and an occupational  
20 medicine physician, my operational and industrial experiences from my total Navy  
21 career, my review of historical documents regarding the Navy's knowledge and the  
22 scientific and medical communities' knowledge of the hazards of asbestos, and my  
23 numerous communications with industrial hygienists and physicians who worked for  
24 the Navy and the United States Public Health Service dating back to the 1940s.

25 8. The Navy's specification and use of asbestos aboard ships, including in or  
26 on boilers and other high temperature equipment, was not by chance or based on any  
27 requirements of Foster Wheeler. The extensive use of asbestos was predicated upon  
28 military necessity. As discussed in their landmark paper addressing the use of asbestos



1 in the Navy, Fleischer and coworkers (1946) (Exhibit 5) state:

2 *"An important ingredient of pipe covering material used on U.S. Navy vessels is*  
3 *amosite...The chief reasons for the wide use of amosite felt and pipe covering in*  
4 *naval work are its low thermal conductivity, light weight, strength and*  
5 *refractoriness. When the felt and pipe covering were first developed, we were still*  
6 *building vessels under the Washington Treaty of Limitations in Tonnage, and*  
7 *every pound saved meant that much more armor, guns or ammunition for a given*  
8 *displacement, to say nothing of more economic operation for the weight involved*  
9 *in insulation.*

10 *Amosite pipe covering weighs about 14 pounds per cubic foot, with a temperature*  
11 *limit of 750 °F, as compared to magnesia with a weight of 16 pounds per cubic*  
12 *foot, and a temperature limit of 500 °F. High temperature amosite pipe covering*  
13 *weighs about 18 pounds per cubic foot as compared to 26 pounds per cubic foot*  
14 *for other high temperature insulations. Because of the lower conductivity and the*  
15 *higher temperature limit of the amosite type, less of it need be used in a*  
16 *combination covering than other types of insulations.*

17 *The development of amosite felt started in 1934 when a need existed to secure a*  
18 *thermal insulation lighter in weight and thermally more efficient than the*  
19 *materials (blocks and cement or asbestos blankets) which were then being used on*  
20 *destroyer turbines. The Navy approved the type developed by a manufacturer in*  
21 *September, 1934. Originally amosite was used only for turbine insulation, but it*  
22 *proved so satisfactory that its field of application enlarged to include insulation of*  
23 *valves, fittings, flanges, etc. From the initial destroyer, it has been used on*  
24 *almost all the destroyers built since that time and on all other combat vessels built*  
25 *since before the War.*

26 *Pipe covering was a later development in late 1935 and early 1936. Due to the*  
27 *manufacturing problems involved, it took a longer time to evolve into a*  
28 *satisfactory shape, and its first use on naval vessels was in 1937. Since that time*  
*its use has spread markedly and it was used on the great majority of naval combat*  
*vessels built during World War II.*

*Water-repellent amosite felt was developed during the early part of 1942, as a*  
*replacement for hair felt in the insulation of cold water lines to prevent sweating.*  
*Hair felt had the disadvantage of being combustible and as it was organic, when it*  
*became wet it molded or rotted and could harbor vermin. At this time fires on*  
*board certain naval vessels convinced the Navy of the desirability of eliminating*  
*any combustible material from on board ship. Eventually water-repellent amosite*  
*was made in strips of 50 foot lengths and of suitable width to enclose the*  
*circumference of the pipe and enclosed in an extremely light-weight muslin to*  
*facilitate the handling and reduce the dust, which the water-repellent agent*  
*accentuated."*

9. The United States Navy recognized that the inhalation of asbestos fibers in  
sufficient amounts (dose = concentration × time) could result in pulmonary disease since  
at least the early 1920s and had an active program to identify hazardous exposures and

control recognized health effects. In the *"Instructions to Medical Officers" (Notes on Preventive Medicine for Medical Officers, United States Navy (Dublin, 1922) (Exhibit 9))*, asbestos was listed as one of the many inorganic and organic dusts that could cause pulmonary disease when inhaled in a sufficient quantity for a significant period of time. Dublin recognized several methods to prevent the inhalation of these dusts including: the use of water to control the release of dust; the use of local exhaust systems to remove the dust at the point of origin; the use of inclosing (sic) chambers; and the use of respirators and helmets. He stated: "No one of these can apply to all conditions, but the particular method to be used must be adapted to the peculiarities of the process." From the extensive list of inorganic, as well as organic, dusts and "occupations which offer such exposure," it is obvious that his perception of dust control was based upon the avoidance of recognizable disease, and not the mere presence of a given, or visible, amount of dust being generated.

10. The United States Navy expanded the scope of its asbestos hazard control program by including the enlisted corpsmen of the medical department in the hazard control process. In the Handbook of the Hospital Corps, (Bureau of Medicine and Surgery, 1939) (Exhibit 12), the Bureau of Medicine and Surgery discussed the organization used for disease and injury prevention in the United States Navy, and took a lead position in the prevention of industrial disease:

*"The Government having passed such laws must therefore lead the way in protecting its own employees ....An organization has been set up in the Navy to protect its personnel, both civilian and naval. A safety engineer is provided, who acts directly under the Assistant Secretary of the Navy. He has supervision of the safety precautions taken to protect the civilian employees in the navy yards, ammunition depots, torpedo stations and the like. He is also a consultant in all matter pertaining to safety aboard ships, at training stations and other Navy Department activities. A naval medical officer is assigned to his office for the purpose of consultation in all matters pertaining to health and safety and to cooperate in devising means by which health may be protected and accidents prevented. Aside from this particular medical officer, all medical officers, dental officers, members of the Hospital Corps and nurses form the balance of the medical staff of this organization. It is essential that each one of these members know and understand the hazards to be encountered in the Navy, the steps to be taken to protect against injury and disease, the treatment of diseases and injuries arising therefrom and the organization of medical personnel for such purposes. Naval medical personnel are required to perform duties ashore, at sea, in foreign*

1 countries, in the air and under the sea. In each of these places a variety of health  
2 hazards exist. It is therefore necessary that this personnel have a thorough  
3 knowledge of the industry to which they are attached, the hazards presented, the  
4 methods of prevention and the treatment of all injuries occurring.

\* \* \*

5 At all navy yards, the Commandant is the head of the organization. He is  
6 responsible to the Navy Department for the protection of the employees, as well as  
7 the naval personnel, under his command. He is familiar with the nature of the  
8 work being performed by the employees at his station and the health and accident  
9 hazards presented. Accordingly, he appoints, as the working head of the  
10 organization, a safety officer or a safety engineer, as he is better known. The  
11 safety engineer must be of sufficient rank to have become familiar with the various  
12 trades in a navy yard, a knowledge of machinery, a man of cooperative ability and  
13 well liked, and having sufficient knowledge of safety devices and appliances to  
14 intelligently make inspections and recommend proper protective measures. His  
15 duties are primarily, to prevent accidents and promote healthy working  
16 conditions. It is his duty to inspect all working places, make a general survey of  
17 all mechanical conditions and to recommend the addition of all necessary safety  
18 appliances for the protection of the workers...

19 The Commandant further assigns a medical officer to act as advisor to the safety  
20 engineer. The medical officer must be of the same qualifications as the safety  
21 engineer, with the addition that he must be thoroughly versed in the diseases  
22 connected with Industry....[I]t is well for members of the Hospital Corps to  
23 understand the nature of these duties in order that they may be of assistance to  
24 him in the performance of these duties: [ ]...He acts as consultant to the safety  
25 engineer in all matters pertaining to the general welfare and health of employees.  
26 Hygiene and sanitation are his important duties. He must interest himself in the  
27 employees and instruct them in the every day principles of personal hygiene and  
28 self preservation. He must instruct the employees in safety measures and  
encourage them to cooperate in protective measures. They must be made 'safety  
conscious' or 'safety minded.' The morale must be kept up....

The medical officer must inspect all working places in order to have a better  
understanding as to the actual conditions under which the men work. He must  
make appropriate recommendations to improve deficiencies noted and must then  
see that these recommendations are carried out."

The text further notes that the safety engineer is assisted by other personnel:

"The safety engineer is assisted in his work by the foremen of the shops and in  
some instances by safety committees in each shop elected by the employees. These  
men or committees are generally chosen from among the older employees and  
from men who have considerable experience in their trade....[ ] The organization  
of the medical advisor is composed of junior medical officers, dental officers, to  
some extent, members of the Hospital Corps, and of nurses. The duties of the  
hospital corpsmen are to assist the medical officer in his inspections, assist in the  
treatment of the injured and to prepare the necessary reports and returns in cases  
of accident, occupational disease, and the physical examination of employees."

A similar organization is described for "... a battleship or in other places."

To this end, the enlisted Hospital Corpsmen were informed of the hazards

presented by asbestos and instructed to "locate these hazards and afford protection accordingly." Two of the hazards that the hospital corpsmen were specifically instructed to evaluate in a questionnaire (inspection or survey form) are:

*"What precautions are exercised to prevent damage from pipe covering compounds?"*

*"What asbestos hazards exist?"*

Also, the hospital corpsman was instructed to help keep the workforce healthy:

*"Proper working places must be provided and maintained. Hygienic and sanitary conditions must be kept on a high plane. All moving parts of machinery must be guarded, goggles provided for workers required to use them; helmets and masks for sand blasters; proper ventilation for the chrome workers; masks for asbestos workers; protection for workers in X-ray and radium; protective gloves, shoes, and other garments for foundry workers, and other means of protection too numerous to mention here must be available and used. [ ] Special physical examinations must be made of all sand blasters, asbestos handlers, those exposed to radium and its compounds, lead workers, those engaged in dusty or smoky trades, handlers of T.N.T. and other explosives, etc., to prevent the occurrence of the diseases associated with those trades from injuring the men."*

11. This type of active assessment, evaluation, and recommendation for control was embraced by senior United States Navy officers. In his memorandum to the Manager of the Navy Yard, Boston, Captain H.E. Jenkins, MC, USN (Jenkins, 1939) (Exhibit 13) discussed his findings and recommendations from his survey of the pipe covering shop and work shack at that yard. Although he stated that the health hazards to personnel were very remote, based upon his evaluation of the amount of dust released, Captain Jenkins recommended that a dust respirator and gloves be worn to supplement the "conscientiously and intelligently enforced" practice of wetting down insulating material. Captain Jenkins also addressed the impractical use of respirators during shipboard lagging operations and recommended sufficient wetting to prevent dust generation as far as practicable. Less than one week later, C.D. Headlee (1939) (Exhibit 14), issued a Production Division Notice (Number 996) implementing these recommendations.

12. Captain E.W. Brown, in the *Annual Report of the Surgeon General, U.S. Navy*



1 to the Secretary of the Navy (Surgeon General, U.S. Navy, 1941) (Exhibit 15) and in the  
 2 scientific publication of his presentation made to the Fifth Annual Meeting of the Air  
 3 Hygiene Foundation of America (Brown, 1940, printed 1941) (Exhibit 16), discussed the  
 4 findings of his medical survey at the New York Navy Yard. Captain Brown, recognized  
 5 as the founder of the Navy's formal occupational health program, assessed asbestos  
 6 exposure and medical findings of eleven workers at the New York Navy Yard. With  
 7 knowledge of occupational exposure to silica and its delayed medical findings, and  
 8 under the conditions that he observed, Captain Brown found no indication of pulmonary  
 9 disease in these workers at that time. He noted that wet methods and local exhaust  
 10 ventilation were implemented, and that the workers wore a respirator "during the  
 11 dustiest aspect of the process." He stated that similar findings were reported in two  
 12 other yards and recommended that the study be extended to all men in this trade. These  
 13 references further demonstrate that senior Navy personnel actively monitored and  
 14 controlled the Navy policy regarding disease and injury prevention, and were indeed the  
 15 leaders in field assessment and control of occupational health hazards, including  
 16 asbestos.

17 13. When quantitative assessment (counting) of asbestos particles in air was  
 18 available, the Navy followed the recommendations of the United States Public Health  
 19 Service. Based upon the findings of Dreessen and coworkers' 1938 study (Exhibit 17) of  
 20 asbestosis in the textile industry prepared by direction of the United States Surgeon  
 21 General, the United States Navy accepted an exposure level of 5 million particles per  
 22 cubic foot (5 MPPCF) as the time-weighted average (TWA) for occupational exposure.  
 23 Dreessen et al. concluded: "It would seem that if the dust concentration in asbestos  
 24 factories was kept below 5 million particles (the engineering section of this report has  
 25 shown how this may be accomplished), new cases of asbestosis would probably not  
 26 appear." This TWA is the average airborne concentration of asbestos particles to which  
 27 an individual could be exposed in an eight hour period. Shorter periods of higher  
 28 concentrations were acceptable as long as the average exposure calculated over eight

1 hours did not exceed the TWA.

2 14. A 1941 memorandum from the Officer-in-Charge of the Navy's Division of  
3 Preventive Medicine to the Surgeon General (Stephenson, 1941; Exhibit 18) addressed the  
4 policy of inviting the Bureau of Labor Standards or the United States Public Health  
5 Service into the Navy yards for the purpose of surveying welding and other hazards.  
6 Commander Stephenson writes:

7 *"I told Mr. Bard [Assistant Secretary of the Navy] that this was not considered*  
8 *the best policy, due to the fact that we had medical officers in the Yards and that*  
9 *in practically all instances recommendations of sound character had been made by*  
10 *medical officers. We saw no need of inviting the United States Public Health*  
11 *Service on its own invitation to do this job. Likewise, I told him that I had spoken*  
12 *to you and that you had indicated that President Roosevelt thought that this*  
13 *might not be the best policy, due to the fact that they might sense disturbance in*  
14 *the labor element."*

15 Under "Points of great interest," Commander Stephenson expressed concern about  
16 silicosis, sand blasting, welding, solvents, hydrogenated (sic) hydrocarbons, eye flashes,  
17 cadmium dust, smokes and fumes, chromium trioxide, and asbestosis. With respect to  
18 asbestos, he stated:

19 *"We are having a considerable amount of work done in asbestos and from my*  
20 *observations I am certain that we are not protecting the men as we should. This*  
21 *is a matter of official report from several of our Navy Yards."*

22 15. As mentioned by Captains Jenkins and Brown, they found asbestos  
23 exposure conditions that were not fully satisfactory and required changes.  
24 Recommendations for correction of the exposure conditions were made. In both of these  
25 instances, only a qualitative assessment was made and actual exposure levels were not  
26 determined. Brown (1941; Exhibit 16) found no significant clinical findings in the limited  
27 number of workers observed during the relatively short, post-exposure period. The  
28 Navy's occupational health program was based upon internal support for the  
identification and control of occupational health hazards. In order to develop a sufficient  
cadre of physicians and scientists, the Navy developed training programs with Columbia  
University's DeLamar Institute of Public Health and the Harvard School of Public  
Health. By the end of World War II, over one hundred physicians, scientists, and

1 engineers had been trained in occupational health at these two leading institutions of US  
2 public health.

3 16. *The Minimum Requirements for Safety and Health in Contract Shipyards*  
4 (United States Navy Department and United States Maritime Commission, 1943; Exhibit  
5 19) were drafted in 1942 by representatives from labor management committees, labor  
6 unions, management of private shipyards, insurance companies, the United States  
7 Maritime Commission, and the United States Navy. When approved by the US Maritime  
8 Commission and the U.S. Navy in early 1943, compliance with these standards was  
9 expected:

10 *"Each contractor is hereby given notice that the Navy Department and the*  
11 *Maritime Commission will expect full and complete compliance with the*  
12 *minimum standards which bear the approval of the Navy Department and*  
13 *Maritime Commission, and each is requested to give full cooperation to the*  
14 *consultants on health and safety who will be charged with the coordination and*  
15 *supervision of the safety and health program of the two agencies.*

16 H-13. *A Guide for Prevention of Industrial Disease in Shipyards*

17 13.1 *Eight common types of disease and methods for their prevention are given in*  
18 *the following sections. Help in applying these methods will be given by the local*  
19 *Safety Department and by safety and medical consultants of the Navy*  
20 *Department and the Maritime Commission.*

21 ....

22 13.7 *Asbestosis*

23 a. *Sources: In general, any job in which asbestos dust is breathed. For example:*

|                            |                          |
|----------------------------|--------------------------|
| 24 <i>Job:</i>             | <i>When Material Is:</i> |
| 25 <i>Handling</i>         | <i>Asbestos</i>          |
| 26 <i>Sawing</i>           | <i>Asbestos mixtures</i> |
| 27 <i>Cutting</i>          |                          |
| 28 <i>Molding</i>          |                          |
| <i>Welding rod salvage</i> |                          |

b. *Job can be done safely with:*

1. *Segregation of dusty work and,*
2. *(a) Special ventilation: hood enclosing the working process and having linear air velocities at all openings of 100 feet per minute, or*
3. *(b) Wearing of special respirators.*
3. *Periodic medical examination"*

Less than six months after the Minimum Requirements were issued, the Secretary of the Navy (Forrestal, 1943 (Exhibit 20)) reaffirmed these requirements for all private shipyards having Navy contracts. The minimum requirements did not provide a specific occupational exposure value for asbestos. They gave general requirements for safe (healthful) operations. The Navy's occupational health team was responsible for assisting in interpreting the standards for implementation at Navy and contract yards throughout the country. Any significant inspection findings, whether favorable or adverse, were to be discussed first with the shipyard management, thus allowing management the opportunity to take corrective action for imminent dangers. The actual written report was to be submitted in draft form to the regional director of the Maritime Commission for final typing.

17. In addressing exposure to asbestos, Philip Drinker, then Chief Health Consultant for the United States Maritime Commission, and Professor in the Harvard School of Public Health program that was training the Navy physicians, scientists, and engineers, recommended an occupational exposure level of 5 MPPCF. (Drinker, 1944 (Exhibit 21)). This is the same value as recommended by Dreessen and coworkers (1938) (Exhibit 17) to prevent the development of asbestosis.

18. In January, 1945, Philip Drinker (1945) (Exhibit 22) informed Captain T. J. Carter, Bureau of Medicine and Surgery, of a serious health risk from asbestos dust exposure at Bath Iron Works. He was concerned that similar risks might be found in



1 other yards where the same type of pipe covering was used. In this letter, Professor  
2 Drinker stated that the manufacturers of the asbestos materials used at Bath would:

3  
4 *"...be glad to get out a brief statement of precautions which should be taken in*  
5 *light of their own experience and that they would inform their competitors that I*  
6 *had asked them to do so. I understand that neither the Navy nor Maritime wants*  
7 *any change in the specifications as the performance with the present materials is*  
8 *entirely satisfactory. From a health standpoint we do not believe any specification*  
9 *changes are needed."*

10 Drinker recommended that a study be performed to evaluate asbestos exposure  
11 and disease among workers. "Admiral Mills agreed that such studies would be wise  
12 before Navy or Maritime accepted this asbestosis risk as being significant in our general  
13 ships construction program." Four shipyards in the New York area, two contract and  
14 two U.S. Navy yards, were selected for this study of exposure levels and health status.  
15 The study, conducted by Fleischer, Viles, Gade, and Drinker-also called the "Fleischer-  
16 Drinker study"-was promptly undertaken and reported in September, 1945 by Drinker to  
17 Admiral Mills (Chief, BuSHIPS) (Drinker, 1945b: Exhibit 23); (Fleischer et al., 1946;  
18 Exhibit 5). The results of this study reaffirmed the Navy's position on adherence to an  
19 occupational exposure level of 5 MPPCF. The conclusions were:

20 *"1. The character of asbestos pipe covering on board naval vessels is such that*  
21 *conclusions drawn from other asbestos industries such as textiles, cannot be*  
22 *applied.*

23 *2. The operations of band saw cutting, grinding, cement mixing, and installation*  
24 *aboard ship should be equipped with exhaust ventilation to keep the total dust*  
25 *concentration low.*

26 *3. The incidence of asbestosis among pipe coverers in the shipyards studied was*  
27 *low, 0.29 per cent or 3 cases out of 1074.*

28 *4. Since each of the 3 cases of asbestosis had worked at asbestos pipe covering in*  
*shipyards for more than 20 years, it may be concluded that such pipe covering is*  
*not a dangerous trade.*

19. The results of this well-designed study, measuring actual asbestos exposure  
values and performing health assessments on the exposed workers, became established  
as Navy policy. The Navy adopted a recommended "maximum allowable concentration  
(M.A.C.)" value for asbestos of 5 MPPCF. This was the same value discussed by

1 Dreessen and coworkers (1938) (Exhibit 17) when assessing the asbestos textile industry  
 2 with much longer daily exposure periods and primarily the chrysotile type of asbestos. It  
 3 was also the value recommended by the National Conference of Governmental Industrial  
 4 Hygienists in 1942, and later adopted by the American Conference of Governmental  
 5 Industrial Hygienists (ACGIH) in 1946 (ACGIH, 1946 (Exhibit 24)). Among the members  
 6 of the ACGIH in 1946, a private organization which did not offer membership to  
 7 individuals affiliated with industry, were three representatives of the Navy Department  
 8 and forty-two representatives from the United States Public Health Service. There were  
 9 no federal, state, or local occupational exposure standards. The Navy used the  
 10 occupational exposure level that the best scientific and medical evidence supported. In  
 11 1955, the Navy adopted the "Threshold limit values for toxic materials" promulgated by  
 12 the American Conference of Governmental Industrial Hygienists as a basic reference and  
 13 "to provide guidance toward the reduction of potential health hazards encountered in  
 14 the industrial environment for both military and naval civilian personnel." (Chief,  
 15 Bureau of Medicine and Surgery, 1955; Exhibit 25) The Navy recognized that the:

16 *"threshold limit values should be used as a guide in the control of health hazards*  
 17 *and should not be regarded as fine lines between safe and dangerous*  
 18 *combinations. The most desirable levels in all cases are those approaching zero,*  
 19 *but practical considerations frequently require the acceptance of higher levels*  
 20 *which are safe, but not ideal."*

21 Moreover, the Navy recognized that the:

22 *"threshold limit values... are based on the best available toxicological*  
 23 *information, long-term industrial experience, and experimental studies. In as*  
 24 *much as these values are constantly being reevaluated, revisions or additions will*  
 25 *be made as further information becomes available."*

26 (Chief, BUMED, 1955 (Exhibit 25).)

27 20. On January 7, 1958, the Department of the Navy issued its *Safety Handbook*  
 28 *for Pipefitters* (Bureau of Ordnance, 1958) (Exhibit 26). This handbook was one of many  
 safety handbooks issued by the Navy as an aid in safety indoctrination and accident  
 prevention. This handbook provides, in part:

1       *"Asbestos. Asbestos dust is injurious if inhaled. Wear an approved dust*  
 2       *respirator for protection against this hazard."*

3           21.     In the 1960 publication of *Safety and Health Regulations for Ship Repairing*, the  
 4     Department of Labor (Exhibit 27) recommended an occupational exposure level of 5  
 5     MPPCF for asbestos. For comparison to the degree of risk and hazard, the Department of  
 6     Labor also used the occupational exposure level of 5 MPPCF as the same absolute value  
 7     for high "free" crystalline silica dust (greater than 50% free silica). The silica value is also  
 8     the same value established by the ACGIH in 1942 and promulgated in 1946.

9           22.     The use of the 5 MPPCF level as the occupational exposure value continued  
 10    to be generally accepted by professionals practicing occupational health in the United  
 11    States. This value was based upon controlling the development of the fibrotic disease,  
 12    asbestosis. This occupational exposure value, and the widespread use of asbestos,  
 13    continued in the Navy until the late 1960s when the scientific and medical communities  
 14    (Selikoff, 1965 (Exhibit 28) and Selikoff, 1967, (Exhibit 29)) and the United States Navy  
 15    (Commander NAVSEC, 1969 (Exhibit 30) and Officer-in-Charge NAVSEC Philadelphia,  
 16    1969 (Exhibit 31)) had evidence that it was not sufficient to adequately control the health  
 17    effects of exposure.

18          23.     Selikoff, in a paper written with Lee in 1979 (Lee and Selikoff, 1979 (Exhibit  
 19    32)) wrote:

20       *"What's past is prologue! The decade of the 1960s provides a convenient time at*  
 21       *which to terminate a historical view of asbestos disease. With admirable*  
 22       *hindsight from the late 1970s we can see that the essential evidence had already*  
 23       *been reported, but not yet assembled or vested with sufficient credibility to be*  
 24       *entirely convincing. With few exceptions, the evidence at that time rested on*  
 25       *scattered reports of small numbers of cases, and the cases themselves suffered from*  
 26       *being either selected or simply those that happened to come to the attention of the*  
 27       *reporter. The population base from which the cases came was seldom mentioned.*  
 28       *The significance of pleural changes and the occurrence of mesothelioma in persons*  
       *without a distinct history of exposure remained in considerable doubt. The idea*  
       *that asbestos could be at least a cofactor in the production of bronchogenic*  
       *carcinoma was far from fully accepted. That parenchymal asbestosis was very*  
       *likely to occur in those who had been exposed to heavy dosage in the early years of*  
       *the industry was clear enough, but what effect environmental controls that had*  
       *been introduced in the late 1930s might have upon its future prevalence was*  
       *unknown. The possibility that quite low dosages might have grave consequences*  
       *30 or more years after first exposure was still unproven.*

1  
2 Many things were needed to confirm the suggestions that were emerging from the  
3 studies up to that time. Most importantly, systematic epidemiologic  
4 investigation was needed of large cohorts drawn from various types of industry,  
5 with the inclusion of adequate control populations. Some of these were already  
6 organized, but it was too early for the results to be meaningful. We now know  
7 that much of the negative evidence stemmed from coming to conclusions  
8 prematurely, before the slow processes of carcinogenesis had had a chance to make  
9 themselves evident. We now know also that reduction of heavy exposures that  
10 lead to early death would reveal such slowly developing diseases as mesothelioma  
11 and bronchogenic carcinoma with increasing clarity. But foreknowledge was not  
12 available at the time, although some investigators suspected that the auguries  
13 were not good. More sophisticated and sensitive ways of recognizing the disease  
14 processes at an early stage, before the appearance of marked radiographic changes,  
15 were badly needed. A series of international conferences, some already in the  
16 planning stages, were to accelerate these developments greatly. Those who felt  
17 that it was an exciting time were not to be disappointed. The excitement has not  
18 even yet been entirely dissipated."

19 24. Captain N.E. Rosenwinkel, representing the Navy's Bureau of Medicine  
20 and Surgery, provided information regarding the Navy's knowledge of asbestos hazards  
21 to shipyard employees for inclusion in a statement issued by Rear Admiral J.J. Stilwell of  
22 the Shipyard Management Directorate, Naval Sea Systems Command in 1968  
23 (Rosenwinkel, 1968 (Exhibit 33)):

24 "The United States Navy is well aware of the hazards of asbestos to its employees  
25 engaged in ship construction and ship repair at naval shipyards. Hazard control  
26 measures implemented by the shipyard medical departments and safety divisions  
27 are in accordance with accepted standards of industrial hygiene practices in the  
28 United States. Stringent efforts are directed at keeping the concentration of  
airborne asbestos dust below the level recommended by the American Conference  
of Governmental Industrial Hygienists. An energetic periodic physical  
examination program insures the health of personnel exposed to this hazard."

29 25. During the period of the late 1960s, asbestos exposure and control were  
30 being addressed at different levels of command throughout the Navy. The Naval Ship  
31 Engineering Center was searching for substitutes that could meet the rigorous  
32 engineering requirements for shipboard applications (NAVSEC, 1969 (Exhibit 30)). A  
33 meeting between senior engineering, safety, and medical personnel was held to evaluate  
34 possible methods for reducing exposure and to make recommendations to the Chief of  
35 Naval Operations (Turnbull, 1969 (Exhibit 34)). Major Navy shipyards were sharing their  
36 research on asbestos exposure and control measures (Mangold, 1970 (Exhibit 10)).



1  
2           26.     It was not until 1970, that the Occupational Safety and Health Act (PL 91-  
3 596) (Exhibit 2) established national permissible exposure levels (PEL) for the first time  
4 using the federal standard established under the Walsh-Healey Public Contracts Act.  
5 These standards applied to shipyards, as well as other industries using asbestos. At the  
6 time of enactment in 1971, the PEL for asbestos was 12 fibers per cubic centimeter (f/cc).  
7 Based upon current scientific and medical recommendations by that time, the  
8 Occupational Safety and Health Administration (OSHA) emergently lowered the PEL to  
9 5 f/cc (ceiling value of 10 f/cc) in 1971, with a permanent standard of 2 f/cc becoming  
10 effective in 1976. In 1975, OSHA recognized sufficient medical and scientific evidence of  
11 human carcinogenicity to reduce the permissible exposure level to 0.2 f/cc. After legal  
12 challenges, OSHA reduced the PEL to 0.2 f/cc in 1986, and further reduced it to its current  
13 value of 0.1 f/cc in 1994. Requirements from the highest levels of authority in the United  
14 States Navy established the permissible exposure levels as they changed during this post-  
15 OSHA era (Naval Ship Systems Command (NAVSHIPS), 1971 (Exhibit 35); Bureau of  
16 Medicine and Surgery (BUMED), 1973 (Exhibit 36); and Chief of Naval Operations  
17 (CNO), 1974 (Exhibit 37)).

18           27.     The Navy has continued to follow the policy of using occupational  
19 exposure levels based upon the best available scientific and medical information  
20 (BUMED, 1955 (Exhibit 25)). The federal PELs, established by the Occupational Safety  
21 and Health Act of 1970, are generally based upon the American Conference of  
22 Governmental Industrial Hygienists' Threshold Limit Values (TLVs) published in 1968.  
23 Due to statutory requirements, changes to the limited number of chemical PELs have  
24 generally been slow. PELs have been changed for a relatively few chemicals since the  
25 enactment of OSHA in 1970. The TLVs are periodically reviewed and an updated list is  
26 published annually. The TLVs more closely reflect the current state of knowledge and  
27 professional practice in occupational health. The Navy continues to use the most  
28 appropriate occupational exposure levels in the assessment of exposures and follows the

1 requirements stated in the Chief of Naval Operations Instruction OPNAVINST 5100.23 F  
 2 (Chief of Naval Operations, 2002) (Exhibit 38) to provide workplaces that reflect the state-  
 3 of-the-art knowledge and technology, consistent with its defined mission:

4 *"The maintenance of a safe and healthful workplace is a responsibility of*  
 5 *commands throughout the Navy. A successful Navy Occupational Safety and*  
 6 *Health (NAVOSH) program, one that truly reduces work-related risks and*  
 7 *mishaps, results only when support and commitment to the program permeate*  
 8 *every level of an organization. Within the Navy, the Chief of Naval Operations*  
 9 *(CNO) has overall responsibility for the NAVOSH program and implements the*  
 10 *program through the chain of command. Line management is responsible for the*  
 11 *maintenance of safe and healthful working conditions."*

12 28. The Navy's Safety Program was driven from the highest level of authority  
 13 and operational command. The "United States Navy Safety Precautions," OPNAV 34P1,  
 14 was signed out by the Acting Secretary of the Navy, C.S. Thomas, on 8 June 1953 (Exhibit  
 15 39). In his "charge" written in this instruction, Mr. Thomas states:

16 *"The safety of its personnel and the preservation of its materials have always been*  
 17 *a major concern of the Navy Department. Evidence of this is the provision in*  
 18 *Article 0406 of U.S. Navy Regulations, that "Each Naval Technical Assistant*  
 19 *shall prepare and issue to the Naval Establishment the safety precautions, and*  
 20 *instructions pertaining thereto, which are necessary or appropriate in connection*  
 21 *with matters under his technical direction."*

16 \* \* \*

17 *"In recognition of the burden of responsibility which a commanding officer has for*  
 18 *the personnel and material under his command, a governing article, 01104 Basic*  
 19 *Rule of Responsibility, has been included to allow for adjustments to local*  
 20 *conditions and unusual circumstances. The complete text of this article not only*  
 21 *appears in Chapter 1, but is reprinted on the title page of each chapter of the*  
 22 *book."*

23 The "Basic Rule of Responsibility" states:

24 *"Safety is a command function. Responsibility for the safety of personnel is*  
 25 *vested in the commanding officer. Because these safety precautions apply only to*  
 26 *usual conditions, commanding officers or others in authority may find it*  
 27 *necessary to issue special precautions to their commands to cover local conditions*  
 28 *and unusual circumstances. In addition to the posting of appropriate*  
*precautions, careful instruction and indoctrination of all personnel are necessary*  
*to ensure effective compliance with these precautions."*

In order to coordinate sharing of occupational health information between  
 organizationally distinct, and geographically distant, naval activities, the Bureau of  
 Medicine and Surgery instituted the quarterly publishing of Occupational Health

1 Reports: Occupational Health Hazards during World War II. These reports were initially  
2 received by the Bureau of Medicine and Surgery from all field commands staffed with  
3 occupational health professionals, condensed, and redistributed to all the submitting  
4 commands. (BUMED 1955 (Exhibit 40), 1959 (Exhibit 41), 1961a (Exhibit 42), and 1961b  
5 (Exhibit 43).) Later, the Navy Environmental Health Center continued this function until  
6 the late 1990s when electronic information sharing made the process obsolete. These  
7 reports demonstrate that the sharing of industrial hygiene and other occupational health  
8 information and services between commands was common early in World War II.

9       29. Based on my education, training, and experience, it is my professional  
10 opinion that the Navy was well aware of the health hazards associated with the use of  
11 asbestos from the early 1920s. The Navy's decision to use asbestos materials was based  
12 upon naval operating requirements and missions in light of the known health hazards at  
13 various periods in time. The Navy had a longstanding and notable occupational safety  
14 and health program that addressed asbestos and other health hazards, and that provided  
15 exposure control recommendations and methods that were consistent with the state-of-  
16 the-art knowledge in science and medicine. The Navy operated under the premise that  
17 control of asbestos exposure could essentially eliminate the hazard of a material  
18 considered essential for sustained Navy operations. Using established scientific and  
19 medical knowledge, the Navy developed an active program to control the release of  
20 asbestos fibers in dusty operations, as well as to monitor the health of workers at risk.  
21 The landmark study of Fleischer-Drinker, reported in 1946 (Exhibit 5), confirmed the  
22 general thought that exposures in the Navy to asbestos containing materials could be  
23 controlled and health effects could be limited by medical surveillance. Navy industrial  
24 programs were directed at controlling what was considered significant releases of dust.  
25 During the period from about 1938 through the later 1960s, the widely accepted  
26 occupational exposure limit was 5 MPPCF. In the mid-to-late 1960s, the Navy led the  
27 way in assessing asbestos exposure of personnel and developing a program and process  
28 to eliminate the material based upon new scientific and medical information that was

1 becoming available.

2 30. The information possessed by the Navy, with respect to the specification  
3 and use of asbestos, and the health hazards associated with its use aboard Navy vessels,  
4 far exceeded any information that possibly could have been provided by a boiler and  
5 auxiliary equipment manufacturer. The boiler and auxiliary equipment manufacturer  
6 has absolutely no responsibility or control over the workplace or personnel - both  
7 essential aspects of hazard communication. Based upon the knowledge at the time, the  
8 Navy was fully aware of the health hazards of asbestos and had a program to control  
9 exposure of personnel and monitor their health, since before World War II. The  
10 knowledge of the hazards created by the use of asbestos containing materials was  
11 weighed with respect to the benefits provided by its use.

12 31. The Navy controlled asbestos exposure consistent with the then current  
13 state of accepted scientific and medical knowledge balanced by needs for national  
14 defense. Sailors did not have the option to avoid all exposure to asbestos-containing  
15 products or environments in which asbestos was used while on active duty.

16 32. The Navy's knowledge regarding the applications of asbestos and the  
17 health effects represented the state of the art. During the period from the early 1920s to  
18 the late 1960s, there was nothing about the hazards associated with the use of asbestos  
19 containing products used on or in boilers and auxiliary equipment on United States Navy  
20 ships known by a boiler manufacturer, like Foster Wheeler, that was not known by the  
21 United States government and the United States Navy.

22 33. A further question has been asked of me as to whether Navy specifications  
23 such as MIL-M-15071D (Department of the Navy, 1961) (Exhibit 3) or Navy instructions  
24 such as SECNAV Instruction 5100.8 ("Uniform Labeling Program - Navy," 24 September  
25 1956) (Secretary of the Navy, 1956) (Exhibit 4) support the notion that manufacturers of  
26 equipment such as Navy boilers and auxiliary equipment were free to provide their own  
27 additional warning information about hazards associated with asbestos-containing  
28 products that they did not manufacture.



1  
2           34. Based upon review of these documents, many other documents regarding  
3 the Navy's hazard communication program, my career experiences as an Industrial  
4 Hygiene Officer and physician in the Navy dating back to 1972, and personal knowledge  
5 of the Navy's hazard communication program and Naval practices generally, I can state  
6 as follows:

- 7           a. Uniformity and standardization of any communication, and  
8 in particular safety information, are crucial to the operation  
9 of the Navy. The Navy simply could not operate if various  
10 personnel were trained differently, and additionally received  
11 inconsistent information from different manufacturers. In  
12 fact, SECNAV Instruction 5100.8, Para.1 (Secretary of the  
13 Navy, 1956; Exhibit 4) states: *"the purpose of this Instruction is  
14 to standardize labeling requirements for hazardous chemical  
15 products during usage..."*
- 16           b. SECNAV Instruction 5100.8 does not apply to a Navy boiler  
17 as it is not a chemical. It is a piece of mechanical equipment.
- 18           c. SECNAV Instruction 5100.8 is not addressed to  
19 manufacturers (please see "SCOPE" on page one of this  
20 instruction), but rather it directs internal Navy "ACTION"  
21 as specifically written on page 2 of this instruction.  
22 SECNAV Instructions are commands from the Secretary of  
23 the Navy directing Navy personnel on the manner in which  
24 to carry out their obligations. Requirements for  
25 manufacturers seeking to be compensated for materials  
26 supplied to the Navy are covered in military specifications,  
27 not SECNAV instructions.
- 28           d. SECNAV 5100.8 did apply to hazardous materials as  
discussed under the "BACKGROUND" for promulgation of  
this instruction on page 2, and, in fact, did contemplate that  
labels affixed by the manufacturer of the material pursuant  
to state, federal, and other guidelines (such as MSDSs  
published by the Manufacturing Chemists' Association)  
would be part of the Navy's hazard communication  
program (see, Para. 2(a)). In fact, asbestos insulation  
products began containing hazard warning labels from the  
insulation manufacturers in the mid-1960s. Prior to that  
time, beginning more than two decades earlier, the Navy's  
own occupational health program provided training,  
engineering and administrative controls, personal protective  
equipment, and medical surveillance to prevent the hazards  
of asbestos.
- e. Any additional warning about the hazards of asbestos by an

1 equipment manufacturer would be only partial in scope as  
 2 well as inherently redundant, eventually obsolete, and  
 3 possibly inconsistent with the Navy's own training. In the  
 heat of battle, there is simply no time to be interpreting  
 inconsistent hazard labels.

4 f. At best, an equipment manufacturer such as Foster Wheeler,  
 5 which delivered equipment to Navy specifications could  
 6 merely have told personnel to follow the Navy's own  
 mandates for handling asbestos. This redundant  
 7 information is not informative, diverts attention from  
 hazards inherent in the equipment, and would certainly  
 8 become obsolete. Boilers last many years and the Navy's  
 asbestos hazard communication program has evolved over  
 9 the years to keep pace with scientific developments and  
 changes in materials.

10 g. If every equipment manufacturer (and conceivably even the  
 11 pipe and structural steel manufacturers) provided its own  
 warning about asbestos insulation that might be used on or  
 12 around its product, inconsistent warnings would certainly  
 have resulted. And, keep in mind, many other hazardous  
 13 substances (e.g. boiler feed water chemicals, fuels, solvents,  
 heavy metals) are used in conjunction with the multitudes of  
 14 equipment on a ship. If each was to warn about all the  
 possible substances that might be used on or around its  
 15 equipment, sailors would quickly become inundated with  
 inconsistent information on a myriad of substances.

16 h. Some types of insulation used by the Navy on equipment  
 17 were non-asbestos (e.g., fiberglass blankets) and any  
 warning about asbestos on such equipment would simply be  
 18 wrong.

19 i. MILSPEC-M-15071D, Para. 3.3.1 (Department of the Navy,  
 20 1961; Exhibit 3) makes clear that equipment manufacturers'  
 manuals must first be approved by the Bureau of Ships and  
 21 the "manual shall not be modified without approval of the  
 Bureau of Ships." Moreover, it cautions: "*Notes, cautions, and*  
 22 *warnings should be used to emphasize important critical*  
*instructions. The use should be as sparing as is consistent with*  
 23 *real need.*" This specification applied to risks inherent in the  
 operation of the equipment (as distinguished from repair  
 24 and/or overhaul). Gratuitous warnings about the possible  
 use of materials made by others do not comport with this  
 25 specification. Any suggestion that Foster Wheeler was free  
 to depart from Navy-approved manuals is incorrect.

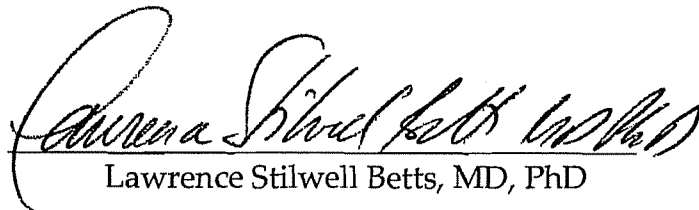
26  
 27 35. Lastly, but importantly, Foster Wheeler, as a manufacturer of boilers and  
 28 auxiliary equipment, was not a subject matter expert regarding the health effects or

1 industrial hygiene controls associated with the use of asbestos-containing materials in  
 2 naval applications. It is unreasonable to assume that the Navy would have accepted  
 3 "helpful comments" from a vendor or equipment manufacturer who was not a subject  
 4 matter expert. The Navy had this specific knowledge and more. The Navy had a robust  
 5 and encompassing occupational health program that far exceeded just the mere labeling  
 6 of a material. This program included aspects appropriate for the degree of recognized  
 7 hazard at various times, including training, engineering controls, medical examinations,  
 8 provision of personal protective equipment, and use of alternative products when  
 9 possible.

10 36. Therefore, I conclude:

- 11 a. The information possessed by the Navy with respect to the  
 12 specification and use of asbestos, and the health hazards  
 13 associated with its uses aboard Navy vessels, represented  
 14 the state-of-the-art and far exceeded any information that  
 15 possibly could have been provided by a boiler manufacturer,  
 16 like Foster Wheeler. Based upon the state of knowledge at a  
 given period in time, the Navy was fully aware of the  
 recognized health hazards of asbestos and had a robust  
 program to control exposure of personnel and monitor their  
 health.
- 17 b. There was no information concerning any asbestos hazards,  
 18 or dangers posed by any asbestos-containing materials used  
 19 in boiler and auxiliary equipment supplied under Navy  
 20 material specifications on a United States Navy ship that was  
 known to a boiler and auxiliary equipment manufacturer,  
 like Foster Wheeler, that was not known to the United States  
 government and the United States Navy.
- 21 c. It would be unreasonable to assume that the Navy would  
 22 have accepted gratuitous, "non-expert" comments from  
 23 equipment manufacturers and vendors about hazards  
 24 associated with products they did not make – and especially  
 25 for one about which the Navy was already fully aware and  
 26 much more knowledgeable than the manufacturer or  
 27 vendor.  
 28

1 I declare under penalty of perjury under the laws of the United States of America  
2 that the foregoing facts are true and correct. Executed this 13<sup>th</sup> day of December, 2007.

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6 Lawrence Stilwell Betts, MD, PhD  
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*Wright, Albert Jr. & Marva Joe*  
United States District Court Northern District of California  
Case No. C 07 -05403 EDL

**CERTIFICATE OF SERVICE**

I am a resident of the State of California, over the age of 18 years, and not a party to the within action. My electronic notification address is [service@bhplaw.com](mailto:service@bhplaw.com) and my business address is 135 Main Street, 20<sup>th</sup> Floor, San Francisco, California 94105. On the date below, I served the following:

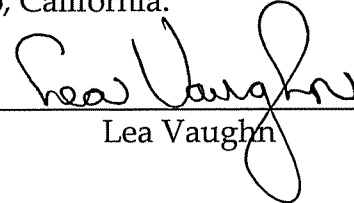
DECLARATION OF LAWRENCE STILLWELL BETTS IN SUPPORT IN  
OPPOSITION TO MOTION TO REMAND TO STATE COURT

on the following:

Via CM/ECF Service

X By transmitting electronically the document(s) listed above as set forth on the electronic service list on this date before 5:00 p.m.

I declare under penalty of perjury that the above is true and correct.  
Executed on December 14, 2007, at San Francisco, California.

  
\_\_\_\_\_  
Lea Vaughn